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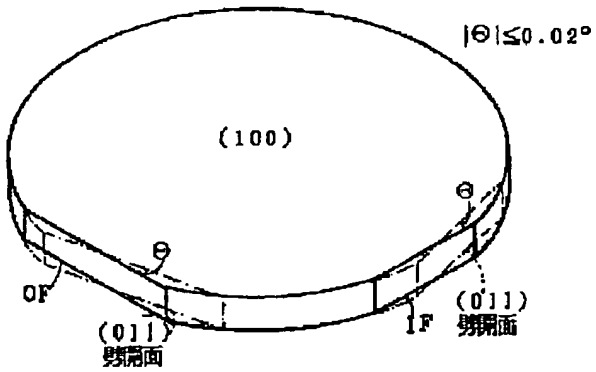
TITLE : III-V COMPOUND SEMICONDUCTOR WAFER AND ITS MACHINING METHOD



ABSTRACT : PURPOSE: To improve manufacturing yield of a laser semiconductor, and lower a minimum oscillation current, and enhance the current/light conversion effi ciency, by machining a wafer having the (100) face of III-V compound semicon ductor, in the manner in which the deviation of an orientation flat to be formed on the side surface from the cleavage plane is in a specified range.

CONSTITUTION: An ingot of III-V compound semiconductor crystal grown in the (100) direction is so ground that the crystal side surface is made to precisely conform to (0±1±1). After that, the ingot is sliced into wafers. The grounded part forms an orientation flat. The deviation from a real cleavage plane is smaller than or equal to 0.02°. Thereby the manufacturing yield at the time of forming a deceive is improved, and the performance of a formed laser element is also improved. That is, the lateral cleavage plane does not intersect the skip scribe in the longitudinal direction, when the crystal is cut along the cleavage plane in the lateral direction, and the yield of the product is improved.